Electronic Version
Stylesheet Version v1.1.1

Description

Compact computer/printer/scanner/webcam all-in-one unit with dual LCD monitors.

Background of Invention

[0001] Most computer accessories such as monitor, printer, scanner, webcam, etc are separate from the computer itself. A fully accessorized computer occupies large spaces and makes portability difficult. This invention minimizes the space a computer and its accessories occupies and eliminates the need for accessory wires and cables, creating a single computer that is easily mobile.

Summary of Invention

[0002] The design reduces the size of the computer by using the PCI extension raise card(part 13) and AGP raise card (part 12). Five internal fans ventilate cool air into the computer and six fans ventilate hot air out of the computer. There are two CD/DVD- ROM racks (part 8 and part 9) that hold

two CD/DVD-ROMs (part 29 and part 30) and two hard disk drive racks (part 10 and part 11) that hold two hard disk drives (part 31and part 32). This invention is a computer, a dual monitor (part 3 and part 4), a printer (part 5), a scanner (part 6), and a webcam (part 7) conveniently compacted into an all-in-one computer.

Brief Description of Drawings

[0003] Fig 1: CASE A's exploded view.

[0004] Fig 2: CASE A's first CD/DVD-ROM rack, second DVD-ROM rack, first hard disk drive rack, second hard disk drive rack and PCI extension card/PCI extension cable/PCI extension slot already assembled.

[0005] Fig 3: Direction of CASE A's first CD/DVD-ROM ,second CD/DVD-ROM and second hard disk drive installation .

[0006] Fig 4: CASE A's first CD/DVD-ROM ,second CD/DVD-ROM first hard disk drive, second hard disk drive and Power supply already assembled.

[0007] Fig 5: CASE A's AGP card, PCI card position.

[0008] Fig 6: CASE A's upper panel.

[0009] Fig 7: CASE A's upper panel already assembled .

[0010] Fig 8: CASE A's bottom view.

[0011] Fig 9: CASE A's top view(without upper panel).

[0012] Fig 10: CASE A's front view.

[0013] Fig 11: CASE A's right side view.

[0014] Fig 12: CASE A's rear view.

[0015] Fig 13: CASE A's left side view.

[0016] Fig 14: CASE A's back view.

[0017] Fig 15: First hard disk drive rack's top and side views.

[0018] Fig 16: First hard disk drive rack's 3D view.

[0019] Fig 17: Second hard disk drive rack's top and side views.

[0020] Fig 18: Second hard disk drive rack's 3D view.

[0021] Fig 19: Direction of cold air blowing in and hot air blowing out.

[0022] Fig 20: Dual monitors/printer/scanner/webcam all-in-one computer's exploded view.

[0023] Fig 21: CASE B's front view.

[0024] Fig 22: CASE B's top view.

[0025] Fig 23: CASE B's right side view.

[0026] Fig 24: CASE B's bottom view.

[0027] Fig 25: CASE B's left side view.

[0028] Fig 26: CASE B's back view.

[0029] Fig 27: CASE B's 3D view.

[0030] Fig 28: Dual monitors/printer/scanner/webcam all-in-one computer's 3D view (when in use).

[0031] Fig 29: Dual monitors/printer/scanner/webcam all-in-one computer's 3D view (prepared to scan when LCD monitor B is open).

[0032] Fig 30: Dual monitors/printer/scanner/webcam all-in-one computer's back view.

[0033] Fig 31: Dual monitors/printer/scanner/webcam all-in-one computer's front view (when not in use).

[0034] Fig 32: Dual monitors/printer/scanner/webcam all-in-one computer's top view (when not in use).

[0035] Fig 33: Dual monitors/printer/scanner/webcam all-in-one computer's right side view (when not in use).

[0036] Fig 34: Dual monitors/printer/scanner/webcam all-in-one computer's bottom view (when not in use).

[0037] Fig 35: Dual monitors/printer/scanner/webcam all-in-one computer's left side view (when not in use).

[0038] Fig 36: Dual monitors/printer/scanner/webcam all-in-one computer's back view (when not in use).

[0039] Fig 37: Dual monitors/printer/scanner/webcam all-in-one computer's front view (when in use).

[0040] Fig 38: Dual monitors/printer/scanner/webcam all-in-one computer's top view (when in use).

[0041] Fig 39: Dual monitors/printer/scanner/webcam all-in-one computer's right side view (when in use).

[0042] Fig 40: Dual monitors/printer/scanner/webcam all-in-one computer's bottom view (when in use).

[0043] Fig 41: Dual monitors/printer/scanner/webcam all-in-one computer's left side view (when in use).

[0044] Fig 42: Dual monitors/printer/scanner/webcam all-in-one computer's front view (prepared to scan when LCD monitor B is open).

[0045] Fig 43: Dual monitors/printer/scanner/webcam all-in-one computer's top view (prepared to scan when LCD monitor B is open).

[0046] Fig 44: Dual monitors/printer/scanner/webcam all-in-one computer's right side view (prepared to scan when LCD monitor B is open).

[0047] Fig 45: Dual monitor/printer/scanner/webcam all-in-one computer's bottom view (prepared to scan when LCD monitor B is open).

[0048] Fig 46: Dual monitors/printer/scanner/webcam all-in-one

computer's left side view (prepared to scan when LCD monitor B is open)

[0049] THE PART LIST ON FIGURES :

[0050] 1 CASE A.

[0051] 2 CASE B.

[0052] 3 LCD monitor A.

[0053] 4 LCD monitor B.

[0054] 5 Printer.

[0055] 6 Scanner.

[0056] 7 Webcam.

[0057] 8 First CD/DVD-ROM rack.

[0058] 9 Second CD/DVD-ROM rack.

[0059] 10 First hard disk drive rack.

[0060] 11 Second hard disk drive rack.

[0061] 12 AGP raise card.

[0062] 13 PCI extension raise card.

[0063] 14 PCI extension cable.

[0064] 15 PCI extension slot.

[0065] 16 Power supply inlet fans.

[0066] 17 First hard disk drive inlet fan.

[0067] 18 Second hard disk drive inlet fan.

[0068] 19 First hard disk drive inlet hole.

[0069] 20 Second hard disk drive inlet hole.

[0070] 21 First CD/DVD-ROM rack mounting screw.

[0071] 22 Second CD/DVD-ROM rack mounting screw.

[0072] 23 First hard disk drive rack mounting screw.

[0073] 24 Second hard disk drive rack mounting screw.

[0074] 25 ATX form factor mainboard.

[0075] 26 CPU fan.

[0076] 27 Mainboard AGP slot.

[0077] 28 Mainboard PCI slot.

[0078] 29 First CD/DVD-ROM.

[0079] 30 Second CD/DVD-ROM.

[0080] 31 First hard disk drive.

[0081] 32 Second hard disk drive.

[0082] 33 Power supply.

[0083] 34 First CD/DVD-ROM mounting screw.

[0084] 35 Second CD/DVD-ROM mounting screw.

[0085] 36 AGP video card.

[0086] 37 PCI card.

[0087] 38 Stand hinge.

[0088] 39 Stand.

[0089] 40 Upper panel.

[0090] 41 Upper panel screw hole.

[0091] 42 CPU fan inlet holes.

[0092] 43 CPU heat outlet fan.

[0093] 44 System heat outlet fans.

[0094] 45 Power supply heat outlet fan.

[0095] 46 Upper panel mounting screw.

[0096] 47 Stand hinge screw hole.

[0097] 48 First hard disk drive mounting screw.

[0098] 49 Second hard disk drive mounting screw.

[0099] 50 LCD monitor A mounting screw.

[0100] 51 LCD monitor A mounting hole.

[0101] 52 LCD monitor A and LCD monitor B control panel.

[0102] 53 Cover.

[0103] 54 Printer paper rack.

[0104] 55 Printer paper feed slot.

[0105] 56 CASE A and CASE B combining hinge.

[0106] 57 Scanner mounting screw.

[0107] 58 Scanner mounting hole.

[0108] 59 Computer control panel.

[0109] 60 LCD monitor B and scanner combining hinge.

[0110] 61 Printer mounting screw.

[0111] 62 Printer mounting hole.

[0112] 63 Scanner lid.

DETAILED DESCRIPTION

[0113] Placing the AGP raise card (part 12) and PCI extension raise card (part 13) parallel with the mainboard (part 25) reduces the size of CASE A (part 1). The PCI extension

raise card (part 13) has a cable (part 14) that extends through the gap underneath the mainboard so that the cable is between the main board (part 25) and the bottom of CASE A (part 1). The cable (part 14) extension ends where the PCI slots (part 15) are beside the main board (part 25). In the design of CASE A (part 1), the first CD/DVD-ROM (part 29) and second CD/DVD-ROM (part 30) are installed reversely, or upside down. The first hard disk drive (part 31)and second hard disk drive (part 32) are also installed reversely. Therefore, when the computer is standing in a vertical position, the bottom of the computer faces you so that discs are loaded in the usual manner, rather than backwards. The first CD/DVD-ROM (part 29)and second CD/DVD-ROM (part 30) is fastened on one side by screws (part 34and part 35) on the outside edge of CASE A (part 1), and on the opposite side by screws on the first CD/DVD-ROM rack (part 8)and second CD/DVD-ROM rack (part 9). The first hard disk drive (part 31) is fastened on the first hard disk drive rack (part 10) on the bottom of CASE A (part 1). The second hard disk drive (part 32) is enclosed between the first CD/DVD-ROM (part 29) and second CD/DVD-ROM (part 30). Also between the first CD/DVD-ROM (part 29) and second CD/DVD-ROM (part

30), located immediately in front of the second hard disk drive (part 32) is the power supply (part 33). CASE A's (part 1) cooling system is arranged as follows: there is a fan underneath the first hard disk drive (part 31) and also underneath the second hard disk drive (part 32). Both fans (part 17and part 18) blow cold air into the first hard disk drive (part 31) and second hard disk drive (part 32).Three fans (part 16) on the edge panel blow in cold air to cool down the power supply (part 33). One fan (part 45) on the upper panel blows out the heated power supply (part 33) air. Three fans (part 44) on the upper panel, in the center, blow hot air from the system. Another set of two fans (part 43) to the side of the center fans blow out hot CPU air. Also on upper panel are a set of holes (part 42) that receives cold air for CPU. On the upper panel, there is a device similar to those on picture frames (part 39) that allows CASE A (part 1) to be propped up for convenient viewing. The device extends from the computer and acts as a stand. The dual monitors/printer/scanner/webcam all-in-one computer is arranged as followed: LCD monitor A (part 3)is screwed into CASE A (part 1). There is a printer (part 5) screwed into CASE B (part 2). A scanner (part 6) is also screwed into CASE B (part 2). There is a gap between

the printer paper rack (part 54) and the back of the scanner (part 6) to hold paper for the printer (part 5). LCD monitor B (part 4) also acts as a scanner lid (part 63) for the scanner that is located directly underneath the LCD monitor B (part 4). To use the scanner, users open LCD monitor B (part 4)and vertically place a document inside. The webcam (part 7), used for visual and audio communication, is located on the top left side of CASE B (part 2). CASE A (part 1) and CASE B (part 2) are attached by a hinge (part 56), so that the entire unit may fold together for mobility or when not in use.